

WHAT IS CLAIMED IS:

1. A system for automatically establishing a wireless connection between adapters, the system comprising:

a master adapter coupleable to a peripheral device and operable to:

5 automatically enter an inquiry mode in response to the occurrence of a first event, the master adapter being operable to automatically establish one or more wireless connections between the master adapter and one or more slave adapters in the inquiry mode, the one or more slave adapters being coupled to one or more computer systems; and

10 automatically enter an operational mode in response to the occurrence of a second event, the master adapter being operable to enable communication between the peripheral device and the one or more computer systems via the one or more wireless connections using a wireless protocol in the operational mode.

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2. The system of Claim 1, wherein the first event comprises one or more of the following:

the master adapter powering up;

the master adapter being uncoupled from the peripheral device; and

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the master adapter being reset.

3. The system of Claim 1, wherein the second event comprises the master adapter successfully establishing the one or more wireless connections.

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4. The system of Claim 1, wherein, to automatically establish the one or more wireless connections between the master adapter and the one or more slave adapters, the master adapter automatically scans one or more wireless communication channels to detect the one or more slave adapters.

5           5.       The system of Claim 4, wherein:  
              the one or more slave adapters each have an identifier; and  
              in response to the master adapter automatically scanning the one or more  
wireless communication channels, the master adapter receives from each of the one or  
more slave adapters the identifier of the slave adapter.

              6.       The system of Claim 5, wherein at least one of the identifiers is a  
BLUETOOTH address.

10           7.       The system of Claim 4, wherein, after the master adapter has detected a  
slave adapter, the master adapter automatically communicates a connect request to the  
detected slave adapter.

15           8.       The system of Claim 7, wherein the master adapter uses a  
BLUETOOTH address of the detected slave adapter to communicate the connect  
request to the detected slave adapter.

              9.       The system of Claim 7, wherein the connect request comprises a  
protocol service multiplexer (PSM) of the master adapter.

20           10.      The system of Claim 7, wherein the master adapter is operable to  
automatically:

              receive, from the detected slave adapter, an acknowledgement of the connect  
request;  
25           communicate a password request to the detected slave adapter;  
              receive a password from the detected slave adapter;  
              determine whether the password is valid; and  
              enable communication between the peripheral device and the computer system  
coupleable to the detected slave adapter in the operational mode only if the password  
30           is valid.

11. The system of Claim 1, wherein, when a wireless connection between the master adapter and a slave adapter coupled to a computer system is established, the master adapter:

5 obtains data associated with the slave adapter; and  
stores the data to enable communication between the peripheral device and the computer system coupled to the slave adapter.

12. The system of Claim 11, wherein the data comprises one or more of:  
10 an identifier of the slave adapter;  
a link key associated with the slave adapter;  
a personal identification number (PIN) code associated with the slave adapter;  
a power level associated with the slave adapter; and  
an access code associated with the slave adapter.

13. The system of Claim 1, wherein the wireless protocol is a  
15 BLUETOOTH protocol.

14. The system of Claim 1, wherein one or more universal serial bus  
20 (USB) connections are useable to couple the master adapter to the peripheral device.

15. The system of Claim 1, wherein the peripheral device is one or more of:

a printer;  
a scanner;  
5 a digital camera;  
a modem;  
a joystick;  
a webcam;  
a personal digital assistant (PDA);  
10 a mouse;  
a keyboard; and  
a port replicator.

16. The system of Claim 1, wherein at least one of the one or more computer systems is one or more of:

a personal digital assistant (PDA);  
a laptop computer system; and  
a desktop computer system.

17. The system of Claim 1, wherein, in the operational mode, the master adapter automatically determines, at predetermined intervals, whether the master adapter is coupled to the peripheral device.

18. The system of Claim 1, wherein the master adapter is further operable to automatically indicate to a user that the master adapter has switched from the inquiry mode to the operational mode.

19. A system for automatically establishing a wireless connection between adapters, the system comprising:

a slave adapter coupled to a computer system, the slave adapter being operable to automatically:

5 receive a message from a master adapter that is coupleable to a peripheral device;

respond to the message to establish a wireless connection between the master adapter and the slave adapter; and

10 after the wireless connection has been established, enable communication between the computer system and the peripheral device via the wireless link using a wireless protocol.

20. The system of Claim 19, wherein:

the message from the master adapter is a scan message; and

15 in response to the scan message, the slave adapter communicates an identifier of the slave adapter to the master adapter.

21. The system of Claim 20, wherein the identifier of the slave adapter is a BLUETOOTH address.

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22. The system of Claim 20, wherein the slave adapter is operable to:

receive a connect request from the master adapter in response to the slave adapter communicating the identifier of the slave adapter to the master adapter, the connect request comprising a protocol service multiplexer (PSM) of the master adapter;

determine whether the PSM of the master adapter corresponds to a PSM of the slave adapter; and

if the PSM of the master adapter corresponds to the PSM of the slave adapter, communicate an acknowledgement to the master adapter to establish a wireless connection between the master adapter and the slave adapter.

23. The system of Claim 22, wherein the slave adapter is operable to:

receive a password request from the master adapter in response to the slave adapter communicating the acknowledgement to the master adapter; and

communicate a password to the master adapter.

24. The system of Claim 19, wherein, when the wireless connection between the master adapter and the slave adapter is established, the slave adapter communicates data associated with the slave adapter to the master adapter that enables communication between the computer system and the peripheral device via the wireless link.

25. The system of Claim 24, wherein the data comprises one or more of:  
an identifier of the slave adapter;  
a link key associated with the slave adapter;  
a personal identification number (PIN) code associated with the slave adapter;  
5 a power level associated with the slave adapter; and  
an access code associated with the slave adapter.

26. The system of Claim 19, wherein the wireless protocol is a  
BLUETOOTH protocol.

27. The system of Claim 19, wherein one or more universal serial bus  
(USB) connections are used to couple the slave adapter to the computer system.

28. The system of Claim 19, wherein the peripheral device is one or more  
15 of:

a printer;  
a scanner;  
a digital camera;  
a modem;  
20 a joystick;  
a webcam;  
a personal digital assistant (PDA);  
a mouse;  
a keyboard; and  
25 a port replicator.

29. The system of Claim 19, wherein the computer system is one or more of:
- a personal digital assistant (PDA);
  - a laptop computer system; and
  - a desktop computer system.

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30. A method for automatically establishing a wireless connection between adapters, the method comprising:

automatically entering an inquiry mode in response to the occurrence of a first event;

5 in the inquiry mode, automatically establishing one or more wireless connections between a master adapter coupleable to a peripheral device and one or more slave adapters coupled to one or more computer systems;

automatically entering an operational mode in response to the occurrence of a second event; and

10 in the operational mode, enabling communication between the peripheral device and the one or more computer systems via the one or more wireless connections using a wireless protocol in the operational mode.

31. The method of Claim 30, wherein the first event comprises one or  
15 more of the following:

the master adapter powering up;

the master adapter being uncoupled from the peripheral device; and

the master adapter being reset.

20 32. The method of Claim 30, wherein the second event comprises the one or more wireless connections being successfully established.

33. The method of Claim 30, comprising automatically scanning one or more wireless communication channels to detect the one or more slave adapters.

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34. The method of Claim 33, comprising receiving from each of the one or more slave adapters a identifier of the slave adapter in response to the one or more wireless communication channels being scanned.

35. The method of Claim 34, wherein at least one of the identifiers is a BLUETOOTH address.

36. The method of Claim 33, comprising, after a slave adapter has been detected, automatically communicating a connect request to the detected slave adapter.

37. The method of Claim 36, wherein a BLUETOOTH address of the detected slave adapter is used to communicate the connect request to the detected slave adapter.

38. The method of Claim 36, wherein the connect request comprises a protocol service multiplexer (PSM) of the master adapter.

39. The method of Claim 36, comprising:  
receiving, from the detected slave adapter, an acknowledgement of the connect request:

communicating a password request to the detected slave adapter;

receiving a password from the detected slave adapter;

determining whether the password is valid; and

enabling communication between the peripheral device and the computer system coupleable to the detected slave adapter in the operational mode only if the password is valid.

40. The method of Claim 30, comprising:  
when the wireless connection between the master adapter and a slave adapter is established, obtaining data associated with the slave adapter; and

storing the data to enable communication between the peripheral device and the computer system coupled to the slave adapter.

41. The method of Claim 40, wherein the data comprises one or more of:  
an identifier of the slave adapter;  
a link key associated with the slave adapter;  
a personal identification number (PIN) code associated with the slave adapter;  
5 a power level associated with the slave adapter; and  
an access code associated with the slave adapter.

42. The method of Claim 30, wherein the wireless protocol is a  
BLUETOOTH protocol.

43. The method of Claim 30, wherein one or more universal serial bus  
(USB) connections are useable to couple the master adapter to the peripheral device.

44. The method of Claim 30, wherein the peripheral device is one or more  
15 of:

a printer;  
a scanner;  
a digital camera;  
a modem;  
20 a joystick;  
a webcam;  
a personal digital assistant (PDA);  
a mouse;  
a keyboard; and  
25 a port replicator.

45. The method of Claim 30, wherein at least one of the one or more computer systems is one or more of:

a personal digital assistant (PDA);

a laptop computer system; and

a desktop computer system.

46. The method of Claim 30, further comprising, in the operational mode, automatically determining, at predetermined intervals, whether the master adapter is coupled to the peripheral device.

47. The method of Claim 30, further comprising automatically indicating to a user when the operational mode is entered.

48. A method for automatically establishing a wireless connection between adapters, the method comprising:

automatically receiving a message from a master adapter that is coupleable to a peripheral device;

5 automatically responding to the message to establish a wireless connection between the master adapter and a slave adapter that is coupled to a computer system; and

after the wireless connection has been established, enabling communication between the computer system and the peripheral device via the wireless link using a wireless protocol.

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49. The method of Claim 48, wherein:

the message from the master adapter is a scan message; and

the method comprises, in response to the scan message, communicating an identifier of the slave adapter to the master adapter.

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50. The method of Claim 49, wherein the identifier of the slave adapter is a BLUETOOTH address.

20 51. The method of Claim 49, comprising:

receiving a connect request from the master adapter in response to the identifier of the slave adapter being communicated, the connect request comprising a protocol service multiplexer (PSM) of the master adapter;

25 determining whether the PSM of the master adapter corresponds to a PSM of the slave adapter; and

if the PSM of the master adapter corresponds to the PSM of the slave adapter, communicating an acknowledgement to the master adapter to establish a wireless connection between the master adapter and the slave adapter.

52. The method of Claim 51, comprising:  
receives a password request from the master adapter in response to the  
acknowledgement being communicated; and  
communicating a password to the master adapter.

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53. The method of Claim 48, comprising, when the wireless connection  
between the master adapter and the slave adapter is established, communicating data  
associated with the slave adapter to the master adapter that enables communication  
between the computer system and the peripheral device via the wireless link.

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54. The method of Claim 53, wherein the data comprises one or more of:  
an identifier of the slave adapter;  
a link key associated with the slave adapter;  
a personal identification number (PIN) code associated with the slave adapter;  
a power level associated with the slave adapter; and  
an access code associated with the slave adapter.

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55. The method of Claim 48, wherein the wireless protocol is a  
BLUETOOTH protocol.

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56. The method of Claim 48, wherein one or more universal serial bus  
(USB) connections are used to couple the slave adapter to the computer system.

57. The method of Claim 48, wherein the peripheral device is one or more  
of:

a printer;  
a scanner;  
5 a digital camera;  
a modem;  
a joystick;  
a webcam;  
a personal digital assistant (PDA);  
10 a mouse;  
a keyboard; and  
a port replicator.

58. The method of Claim 48, wherein the computer system is one or more  
15 of:

a personal digital assistant (PDA);  
a laptop computer system; and  
a desktop computer system.

59. A system for automatically establishing a wireless connection between adapters, the system comprising:

means for automatically entering an inquiry mode in response to the occurrence of a first event;

5 means for, in the inquiry mode, automatically establishing one or more wireless connections between a master adapter coupleable to a peripheral device and one or more slave adapters coupled to one or more computer systems;

means for automatically entering an operational mode in response to the occurrence of a second event; and

10 means for, in the operational mode, enabling communication between the peripheral device and the one or more computer systems via the one or more wireless connections using a wireless protocol in the operational mode.